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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Missile Defense Agency	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	454.440	363.640	366.552	-	366.552	376.116	383.055	358.431	364.725	Continuing	Continuing
MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>	439.876	285.993	194.367	-	194.367	215.166	199.753	185.137	195.760	Continuing	Continuing
MT01: <i>C2BMC Test</i>	-	-	59.189	-	59.189	53.874	59.433	56.766	49.689	Continuing	Continuing
MX01: <i>Command & Control, Battle Management, Communications (C2BMC) Development Support</i>	-	62.725	94.394	-	94.394	88.115	105.185	98.861	100.788	Continuing	Continuing
MD40: <i>Program-Wide Support</i>	14.564	14.922	18.602	-	18.602	18.961	18.684	17.667	18.488	Continuing	Continuing

Note

N/A

A. Mission Description and Budget Item Justification

The Ballistic Missile Defense Command and Control, Battle Management, and Communications (C2BMC) Program establishes the System by linking together the external sensors and weapons of independent Elements into a layered missile defense system such that the whole is more capable and robust than the sum of its parts -- thus increasing the footprint of the Ballistic Missile Defense System (BMDS) with greater performance and defensive coverage. The C2BMC enables the BMDS to manage complex threats -- near simultaneous enemy missile shots aimed at theater, regional, or homeland assets. The systems linked through C2BMC include Phased Array Tracking Radar Intercept on Target (PATRIOT), Terminal High Altitude Area Defense (THAAD), Aegis Ballistic Missile Defense (BMD), Ground Based Midcourse Defense (GMD); and sensors such as the Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) radar, Sea-Based X-Band Radar (SBX), Space-Based Infrared System (SBIRS), and (BMDS) Overhead Persistent Infra-Red (OPIR) Architecture (BOA). The C2BMC Program will ship a C2BMC Deployable Interface Node (CDIN) with a forward based AN/TPY-2 identified for a future BMDS deployment. The C2BMC program will also upgrade existing suite to Spiral 6.4 suite for Central Command (CENTCOM), install communications, support hardware-in-the-loop (HWIL) integration testing, provide operations and distraction, and add a training suite in CENTCOM.

Based on the Missile Defense Agency's defined architectures and system specifications, the C2BMC program will provide the warfighter the capability to plan the Ballistic Missile Defense (BMD) fight while concurrently tracking all potential ballistic missile threats, and pairing any sensor with any shooter to defeat ballistic missile threats at any range, in any phase, in all theaters. C2BMC battle management, via the Global Engagement Manager (GEM), will deliver full X-Band radar sensor control and capabilities for Improved threat object correlation which calculates a common threat track from multiple sensors through data fusion, with sufficient data accuracy and timeliness for BMDS weapon Elements to enable successful engagements via Link-16 and Extremely High Frequency (EHF) satellite communications. The C2BMC program will also work to increase coalition partners' capabilities.

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APPROPRIATION/BUDGET ACTIVITY

0400: *Research, Development, Test & Evaluation, Defense-Wide*
 BA 4: *Advanced Component Development & Prototypes (ACD&P)*

R-1 ITEM NOMENCLATURE

PE 0603896C: *Ballistic Missile Defense Command and Control, Battle Management & Communication*

The C2BMC Program will expand defense of the United States, allies, and deployed forces by continuing work which has focused on limited Iranian long-range threats by enabling a coordinated defense against short- to intermediate-range threats in two regions/theaters.

One of the best ways to dissuade, deter, and defeat ballistic missile threats is through integrated ballistic missile defense capabilities: weapons; sensors; and command and control, battle management, and communications. A potential or actual attack may cross regions and may fly higher and faster than stand-alone, autonomous capabilities operated by a single Military Service can defend against. Integrated Ballistic Missile Defense (BMD) capabilities draw on space-, land-, and sea-based assets operated by multiple Services to provide the best sensor information about the enemy missiles location and track a more diverse and effective set of weapon options to be used by the Combatant Commander to defeat the attack; with all connected by a unifying Command and Control, Battle Management, and Communications (C2BMC) system. As a result, an effort funded in a program element may be critical to the success of efforts in other program elements. These connections are referred to as interdependencies.

B. Program Change Summary (\$ in Millions)	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	342.625	364.103	330.337	-	330.337
Current President's Budget	454.440	363.640	366.552	-	366.552
Total Adjustments	111.815	-0.463	36.215	-	36.215
• Congressional General Reductions	-3.116	-0.463			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	114.100	-			
• Reprogrammings	3.410	-			
• SBIR/STTR Transfer	-2.104	-			
• Other Adjustment	-0.475	-	36.215	-	36.215

Change Summary Explanation

The FY 2011 increase of \$111.815 Million reflects a congressional increase (Department of Defense and Full Year Continuing Appropriation Act, FY 2011 (Public Law 112-10)).

The FY 2012 decrease of \$0.463 Million reflects a congressional reduction (Consolidated Appropriation Act of FY 2012 (Public Law 112-74)).

The FY 2013 increase of \$36.215 Million reflects a realignment of Department of Defense priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>				PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>	439.876	285.993	194.367	-	194.367	215.166	199.753	185.137	195.760	Continuing	Continuing
Quantity of RDT&E Articles	1	0	0		0	0	0	0	0		

Note

RDT&E Articles are defined as major C2BMC capability increments (identified as a specific Spiral) which are fielded at multiple locations including Combatant Commands and other operational sites. Budget Project MD01 includes one RDT&E article, Spiral 6.4, which was successfully completed in FY 2011/FY 2012.

The key test event for development is start of Cycle 2, Simulation-Based Verification, when software completes development and begins testing with other Ballistic Missile Defense System (BMDS) Elements. Completion of Cycle 5, Site Activation Testing, and successful participation in BMDS ground test campaigns, verifies delivery of fully functioning operational software.

A. Mission Description and Budget Item Justification

The Command and Control, Battle Management and Communications (C2BMC) Program will provide the warfighter the capability to plan the Ballistic Missile Defense (BMD) fight while concurrently tracking all potential ballistic missile threats, and pairing any sensor with any shooter to defeat ballistic missile threats at any range, in any phase, in all theaters. The C2BMC Program will also work to increase coalition partners' capabilities.

The C2BMC Program will expand defense of the United States, allies, and deployed forces by continuing the work initiated in Budget Project BX01 which has focused on limited Iranian long-range threats by enabling a coordinated defense against short-to intermediate- range threats in two regions/theaters.

Specific goals are to deliver the following, which include BMDS planning, situational awareness, sensor management, and engagement coordination functions incorporated in BMDS Integrated Build C and D specifications approved content:

- Fully integrated BMD Planner and situational awareness displays with integrated intelligence information and defended asset priority schemes
- Initial Global Engagement Manager (GEM) at Ramstein AB
- Continuity of Operations Global Engagement Manager (GEM) at Northern Command (NORTHCOM) (Missile Defense Integration and Operations Center (MDIOC))
- Incorporate Central Command (CENTCOM) into the C2BMC operational architecture
- Incorporate BMDS Overhead Persistent Infra-Red (OPIR) Architecture (BOA) sensor data for radar and shooter (Aegis, Terminal High Altitude Area Defense (THAAD)) cueing
- Update C2BMC model (BCM), for system-level performance assessments that have been validated against operational C2BMC performance

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<p>-Distributed Training System to provide COCOM exercise and training capabilities without scheduling downtime. Training Support System to provide COCOMs and schoolhouses with a flexible and small footprint training capability</p> <p>-Install more effective network monitoring and computer network defense software and hardware at the BMDS Network Operations and Security Center (BNOSC)</p> <p>-Information Assurance (IA) monitoring and modifications of global network devices at all C2BMC locations</p> <p>-Support system flight and ground testing in accordance with the MDA Integrated Master Test Plan (IMTP)</p> <p>C2BMC ELEMENT</p> <p>The Ballistic Missile Defense System (BMDS) Command and Control, Battle Management and Communications (C2BMC) will provide a regional situational awareness and battle management capability at Pacific Command (PACOM), Northern Command (NORTHCOM), European Command (EUCOM) and Central Command (CENTCOM). C2BMC will move to a blade-based computing architecture in Spiral 8.2 to support reliability, maintainability, and modularity.</p> <p>The Ballistic Missile Defense (BMD) Planner will evolve to a network enabled capability designed to interface with service and allied planning components. Improvements include support for rapid re-planning enhanced mapping products and services, updating the Air and Missile Defense Workstation (AMDWS) interface to incorporate Terminal High Altitude Area Defense (THAAD), and an initial interface with North Atlantic Treaty Organization (NATO) planning systems.</p> <p>C2BMC will evolve networked interfaces to expose data over the Secret Internet Protocol Router Network (SIPRNET) providing for display of individual weapon system engagement and coordination information resulting in an integrated common operating picture across the Combatant Commands.</p> <p>C2BMC battle management, via the Global Engagement Manager (GEM), will deliver full X-Band radar sensor control and capabilities for the following:</p> <ul style="list-style-type: none"> - Improved threat object correlation which calculates a common threat track from multiple sensors through data fusion, with sufficient data accuracy and timeliness for BMDS weapon Elements to enable successful engagements via Link-16 and Extremely High Frequency (EHF) satellite communications - Incorporation of BMDS Overhead Persistent Infra-Red (OPIR) Architecture (BOA) and upgraded Space Based Infra-Red System (SBIRS) sensor data - Improved BMD system discrimination logic using multiple sensors discrimination results, selecting the best result, and assigning object type to common threat tracks - Sensor management and weapons engagement coordination aids to direct the BMDS fight and make efficient use of limited inventory <p>C2BMC Spiral 8.2 Distributed Training System (DTS; AKA DMETS) planning and development enables COCOMs to support large-scale exercises and training events without scheduling downtime of operations. The DTS will stimulate C2BMC operational screens at COCOM Air Operations Center (AOC), Maritime Operations Center (MOC), and Headquarters. Capabilities will support training with theater/regional assets and coalition partners, and updated simulations to represent current BMDS system capabilities. C2BMC Spiral 8.2 Training Support System (TSS) planning and development that provides a flexible scenario and small footprint training system for small scale COCOM training events and schoolhouses. The TSS will integrate with Missile Warning and Air Operations Center training systems to provide an integrated training system.</p>		

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>
<p>The Ballistic Missile Defense (BMD) Communications Network ties together an expanding set of sensors and weapons systems enabling the National Command Authority and the commanders at the strategic, theater and tactical levels to optimally engage ballistic missile threats including near simultaneous theater, regional and homeland attacks. The BMD Communications Network provides a robust, end-to-end, high availability, operational communications network (COMNET) infrastructure with diverse paths, that quickly and unambiguously shares information across the global Ballistic Missile Defense System (BMDS). This sharing of information is performed securely with special emphasis on preventing cyber attack via a BMDS Network Operations and Security Center (BNOSC). The C2BMC system and networks are protected by layered defenses that start with circuits comprising the BMDS Communications Network (BCN) that are isolated from the known networks. Where the BCN and the known networks meet, layers of firewalls, encryption devices, routers and switches each with specific access control lists (ACLs), further protect the internal systems and allow only identified and approved users and systems access to the C2BMC data. Effective network management will coordinate, and integrate across diverse equipment platforms, interfaces with other DoD communications systems, evolving information standards and capabilities, and will adhere to the DoD Information Assurance Certification and Accreditation Process (DIACAP). Defense Information Systems Agency (DISA) services are also leveraged in providing world-wide communications. Planned improvements such as dynamic real-time network management and monitoring will enable the warfighter to monitor the connection to BMDS weapons and anticipate and remedy issues as they occur.</p> <p>SITE ACTIVATION</p> <p>Command and Control, Battle Management and Communications (C2BMC) hardware and software have been deployed to Northern Command (NORTHCOM), Strategic Command (STRATCOM), Pacific Command (PACOM), and European Command (EUCOM) with existing sites receiving Spiral upgrades as needed. Current capabilities were expanded with Ballistic Missile Defense (BMD) Planner, web browser, and workstation installations per warfighter requirements. Planning instituted for future Ballistic Missile Defense System (BMDS) operations and site installations included Global Engagement Manager (GEM) at European Command (EUCOM), GEM on the Parallel Support Network (PSN) at Northern Command (NORTHCOM), and network-enabled capability at various locations. Central Command (CENTCOM) has been incorporated into the operational C2BMC architecture. Site Activation also included participation in planning for future BMDS operations and site installations.</p> <p>OPERATIONS AND SUSTAINMENT</p> <p>C2BMC Program Operations and Sustainment (O&S) consists of 1) sustaining C2BMC operational capability worldwide; 2) on-site sub-systems maintenance for all C2BMC including COCOM suites, GEM Suites planners, remote Enterprise Work Stations (EWS), and GEM Work Stations (GWS), web browsers, and communication site(s) associated with the Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) radar(s); 3) the C2BMC Control Center that provides real-time resolution of operational issues; 4) vendor support which includes coordination and resolution of problems that occur with Commercial-off-the-Shelf (COTS) equipment; 5) training of operator, maintenance personnel, and testers; 6) hardware and software maintenance, and upgrade installation to ensure continuity of C2BMC operations.</p>		

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C2BMC Spiral 6.4 Distributed Training System (DTS; AKA DMETS) operations and sustainment will continue until Spiral 8.2 becomes operational. The Spiral 6.4 DTS provides training for STRATCOM, NORTHCOM, PACOM, EUCOM, and CENTCOM. The DTS will be maintained to the same hardware and software baseline as the operational system and will incorporate simulation upgrades to keep pace with evolving BMDS system capabilities.					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2011	FY 2012	FY 2013
Title: Spiral Development			215.391	222.181	151.324
Articles:			1	0	0
Description: See Description Below					
FY 2011 Accomplishments:					
- Completed software development of improvements to support Spiral 6.4 fielding to EUCOM meeting European Phase Adaptive Approach (EPAA) Phase 1 architecture deployment of Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) radar and Aegis Ballistic Missile Defense (BMD) capable ships.					
- Completed verification of functional and performance capabilities of Spiral 6.4 to support fielding to PACOM, STRATCOM, NORTHCOM, and EUCOM.					
- Completed allocation of system-level functional and performance requirements and initial prototype designs for C2BMC Spiral 8.2 capabilities. These include the incorporation of the Ballistic Missile Defense System (BMDS) Overhead Persistent Infrared (OPIR) Architecture for sensor cueing and track forwarding to support Aegis Ballistic Missile Defense (BMD) Launch on Remote capability, as well as improvements to discrimination, sensor management, situational awareness and engagement coordination/engagement direction capabilities.					
- Initiated Spiral 8.2 design in the functional areas of BMD Planner, Situational Awareness, Global Engagement Manager (GEM), and BMD Communications Network software development					
- Continued engineering to demonstrate the incorporation of Airborne Infrared (ABIR) and its integrated ground processor data into the C2BMC architecture					
- Continued engineering to demonstrate the performance and incorporation of (BMDS) Overhead Persistent Infrared (OPIR) Architecture (BOA) into the C2BMC and BMDS architecture					
- Participated in and analyzed results of ground and flight tests, wargames, and exercises in accordance with the BMDS Integrated Master Test Plan (IMTP). Tests included GTD-04b (BMDS Distributed Ground Test), FTG-06a (GM Intercept Flight Test), FTM-15 (THAAD Intercept Flight Test), FTT-12 (THAAD Intercept Flight Test), FTM-16 (Aegis Intercept Flight Test), GTI-04d (BMDS Integrated HWIL Ground Test), GTD-04d part1 (BMDS Distributed Ground Test), and GTX-04e (BMDS Focused Ground Test)					
- Updated, verified, validated, and certified the BMDS C2BMC model, using Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs), for system-level performance assessments. CEC/EMEs are the conditions and events where data is obtained from flight and ground tests in order to anchor system models and simulations					

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012
<ul style="list-style-type: none"> - Upgraded the BMD Communications Network capability (development, integration and test) - Upgraded DoD teleports to enhance satellite communications (SATCOM) connectivity - Incorporated Enhanced C2BMC advanced technologies and prototypes into the C2BMC architecture - Performed Security Event Collection & Correlations, Remote Firewall Management, Host Based Intrusion Detection <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Continue systems engineering to provide the System Description Document and the Integrated Build C and Build D specifications for the Elements to design, build, integrate and test BMDS components. The BMDS Integrated Build C specification directs limited peer-to-peer engagement coordination, sensor, resource management, initial multi-radar capability, warfighter planning, warfighter enhancements, and improved situational awareness -Continue BMDS Integrated Build D specification to continue the communications enhancements adding improved correlation, initial BMDS system track, and expanded BMDS C2BMC interfaces with Friends and Allies -Award follow on contract to continue development by Dec 2011 -Continue Spiral 8.2 engineering and design and BMD Planner, Situational Awareness, Global Engagement Manager (GEM), and BMD Communications Network software development, coding, and integration - Refine and expand the C2BMC planned architecture to incorporate Enhanced C2BMC advanced technology development in integrated discrimination and data fusion and tasking techniques using RF, infrared, advanced remote, and JOG (Joint OPIR Ground Study) sensors -Update C2BMC model, validated by Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs), for system-level performance assessments. CEC/EMEs are the conditions and events where data is obtained from flight and ground tests in order to anchor system models and simulations -By the close of FY 2012, with the completion of BMD System tests, C2BMC Program will collect the CEC data collection points to verify models and simulations for Spiral 6.4C operations and Spiral 8.2 development. -Continue to upgrade the BMD Communications Network capability (development, integration and test) to support European Phase Adaptive Approach (EPAA) -Upgrade DoD teleports to enhance satellite communications (SATCOM) connectivity and add additional Combatant Commands to operations -Update production drawings and installation procedures -Acquire and install Enterprise Work Stations (EWS), web browsers, and BMD Planners 			
			FY 2013

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2011	FY 2012	FY 2013
<p>-Operate Spiral 6.2 and initiate upgrade to Spiral 6.4C at Central Command (CENTCOM)</p> <p>- The C2BMC Program will ship a C2BMC Deployable Interface Node (CDIN) with a forward based AN/TPY-2 identified for a future BMDS deployment.</p> <p>- The C2BMC program will also upgrade existing suite to Spiral 6.4 suite for Central Command (CENTCOM), install communications, support hardware-in-the-loop (HWIL) integration testing, provide operations and disstrainment, and add a training suite in CENTCOM.</p> <p>- Operate the new Spiral 6.4C Global Engagement Manager (GEM) hardware at European Command (EUCOM), Northern Command (NORTHCOM), Strategic Command (STRATCOM), Pacific Command (PACOM)</p> <p>- Continue to incorporate C2BMC Advanced Technologies and prototypes into the enhanced C2BMC architecture</p> <p>- Identify and acquire the long-haul terrestrial communications circuits to support the European Phased Adaptive Approach (EPAA) Phase 1 Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) site in EUCOM</p> <p>- Upgrade the BCN communications systems at the Pacific Missile Range Facility to support the testing of the European Phase Adaptive Approach (EPAA) Phase 2 concept</p> <p>- Initiate Cyber Net Defense (CND) requirements for EPAA Phases 1 and 2</p> <p>- Continue Active Layered Theatre Ballistic Missile Defense (ALTBMD) Systems Engineering</p> <p>- Complete North Atlantic Treaty Organization (NATO) Architecture Design Review</p> <p>- Complete Situational Awareness Node at Eskisehir, Turkey</p> <p>- Participate in the development of NATO Staff Requirements (NSR) for new NATO Territorial Defense Mission</p> <p>FY 2013 Plans:</p> <p>- Continue Spiral 8.2 engineering and design and BMD Planner, Situational Awareness, Global Engagement Manager (GEM), and BMD Communications Network software development, coding, and integration</p> <p>- Update C2BMC model, validated by Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs), for system-level performance assessments. CEC/EMEs are the conditions and events where data is obtained from flight and ground tests in order to anchor system models and simulations</p> <p>- Continue to upgrade the BMD Communications Network capability (development, integration and test) to support European Phase Adaptive Approach (EPAA)</p>					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> - Upgrade DoD teleports to enhance satellite communications (SATCOM) connectivity and add additional Combatant Commands to operations - Acquire and install Enterprise Work Stations (EWS), web browsers, and BMD Planners - Continue Cyber Net Defense (CND) requirements for EPAA Phases 1 and 2 - Integrate BMDS Overhead Architecture (BOA) into spiral 8.2 C2BMC - Develop the initial BMDS C2BMC Model for Spiral 8.2 - Continue development of Spiral 8.2 software, hardware, and network capability - Design, procure, and integrate Spiral 8.2 test infrastructure and tools at Missile Defense Integration and Operations Center (MDIOC) to support Spiral 8.2 verification testing and distributed testing support - Participate in and analyze results of ground and flight tests, wargames, and exercises in accordance with the Ballistic Missile Defense System (BMDS) Integrated Master Test Plan (IMTP). - Complete development and testing of new BMDS Overhead Architecture (BOA) baseline release to support Spiral 8.2 integration and testing - Complete development and fielding of new Spiral 6.4 maintenance release to support warfighter improvements - Spiral 8.2 will prototype and deliver the Two-Factor Authentication (Smart-card) capability on a classified weapons system. Additional improvements to remote administration of the systems, remote monitoring and event response will improve the security configuration management of this growing architecture. Automated anti-virus and patch management will allow for faster deployment of critical patches and anti-virus signatures keeping the systems secured in a timely manner. - Finalize the C2BMC Command and Control (C2) and battle management architecture, including Enhanced C2BMC advanced technologies, to fulfill the European Phase Adaptive Approach (EPAA) 3/4 Architecture - Complete requirements allocation and specification for advanced C2BMC technologies to support EPAA Phase 3 requirements - Complete a North Atlantic Treaty Organization (NATO) Capability 2 Architecture Design - Complete NATO Capability 2 Interface Control Documents (ICDs) 				
Title: Operations and Support (O&S) Description: See Description Below FY 2011 Accomplishments: Additional O&S funding is reported in Program Element 0603884C, Budget Project MD11 \$13.782 Million - Maintained C2BMC training suites		Articles: 59.237 0	- 0	- 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none">- Sustained Global Engagement Manager (GEM) trainers- Developed curriculum for and trained operators, maintenance personnel, and testers- Resolved real-time operational issues through the C2BMC Control Center and Ballistic Missile Defense System (BMDS) Network- Operation and Security Center (BNOSC)- Provided global BMDS communications via leased Defense Information Systems Agency (DISA) circuit lines- Provided and supported communications circuits for fielded C2BMC locations- Provided integrated logistics support planning and management and sustaining engineering support for fielded hardware and software, including support to Navy Maritime Operations Centers where C2BMC equipment resides- Provided support of AN/TPY-2Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) radar communications nodes- Provided operations and sustainment personnel to support test and operations for AN/TPY-2 at 4 deployed operational test sites- Supported Host Nation operations, demonstrations, and tests- Provided sustainment training/skills proficiency to C2BMC operations- Upgraded and maintained computer network defense and network monitoring in the BNOSC- Operated the BNOSC 24 hours a day, 7 days a week, 365 days a year- Provided support/sustainment for C2BMC installations <p>FY 2012 Plans: FY 2012 Plans are reported in budget project MX01</p> <p>FY 2013 Plans: FY 2012 Plans are reported in budget project MX01 \$64.797 Million</p>				
<p>Title: Site Activation and Fielding</p> <p align="right">Articles:</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments: -Updated production drawings and installation procedures -Acquired and installed Enterprise Work Stations (EWS), web browsers, and BMD Planners -Installed Spiral 6.4 Global Engagement Manager (GEM) hardware at European Command (EUCOM)</p> <p>FY 2012 Plans:</p>		42.875 0	- 0	- 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
FY 2012 Plans are captured in Spiral Development Plans \$18.222 Million				
FY 2013 Plans: FY 2013 Plans are captured in Spiral Development Plans \$9.231 Million				
Title: Integrated Master Test Plan		-	32.084	-
		Articles: 0	0	0
Description: See Description Below				
FY 2011 Accomplishments: FY 2011 accomplishments are in the Spiral Development Plans \$13.748 Million and in Program Element 0603904C, Budget Project MD22 \$23.803 Million				
FY 2012 Plans: -Participate in and analyze results of ground and flight tests, wargames, and exercises in accordance with the BMDS Integrated Master Test Plan (IMTP) -Plan, collect data, assess, examine, and report on C2BMC spiral integration testing -Support interoperability and integration of the BMDS program elements -Support the field testing of the European Deployment -Sustain the C2BMC Components of the Distributed Multi-Echelon Distributed Training system (DMETS) in the conduct of BMDS-level wargames, exercises, and training -Provide infrastructure, network, and troubleshooting support to IMTP Event: --C2BMC Control Center (CCC) --System Test and Operations Center (STOC) --BMDS Communications Network (BCN) --Parallel Staging Network (PSN) --BMDS Network Operations and Security Center (BNOSC) - Continue BMD Overhead Persistent Infrared (OPIR) Architecture (BOA) performance assessments, integration, and testing - Conduct concept development for virtualized C2BMC services, service oriented architectures - Develop and maintain Concurrent, Test, Training, and Operations (CTTO) Network Architectures - Conduct initial prototypes and associated operations with CTTO interfaces and architectures				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	PROJECT MD01: Command & Control, Battle Management, Communications (C2BMC)		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
- Conduct North Atlantic Treaty Organization (NATO) Multi-National Ensemble Test #2 - Conduct Exercise Rapid Arrow 2012 German/Dutch Live Fire Event FY 2013 Plans: FY 2013 Plans are reported in budget project MT01 \$59.189 Million				
Title: X-Lab Description: See Description Below FY 2011 Accomplishments: FY 2011 Plans are in Program Element 0603175C, Budget Project MD25 \$12.846 Million FY 2012 Plans: The X-lab communications effort focuses on developing the next generation command and control and battle management concepts and the enabling technologies required to implement them among the BMDS. These activities will develop, integrate, and demonstrate in a system of systems concept, the Command and Control, Battle Management and Communications (C2BMC) and enabling technologies for improving BMDS performance across all mission areas and layers of defense including Early Intercept (EI) to include defense of friends and allies. BMDS integration concepts and techniques are demonstrated and evaluated in system-wide flight tests to facilitate the transition to the operational C2BMC. - Enable integration of new capabilities into C2BMC Spiral 8.2 through performance characterization of Spiral 6.4 and Spiral 8.2 prototypes - Demonstrate and evaluate new C2BMC capabilities in live-flight test events using the C2BMC X-Lab -Continue to evolve warfighter concept of operations (CONOPS) to insert new subsystems and capabilities into the BMDS in the areas of boost phase tracking and classification, sensor resource management, weapons resource management, post-intercept debris information flow, and communication with allies and friendly nations. Note: This is a Phased Adaptive Approach Phase 2 capability - Continue to develop and demonstrate next generation sensor netting and sensor resource management techniques - Conduct sensor netting experiments associated with tracking, integrated discrimination, sensor resource tasking, and Communications/bandwidth constraints		Articles: - 0	7.311 0	12.199 0

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> - Continue to support the efforts of the Enhanced C2BMC program to develop the Integrated Sensor Manager and to prototype the interface between C2BMC and the Integrated Sensor Manager. Capability improvements will be demonstrated through a series of integrated experiments (simulation events, hardware-in-the-loop tests, and system-wide flight tests) - Continue to develop and demonstrate advanced battle management (BM) and integrated fire control capabilities - Conduct architecture assessments of BM functions federated within C2BMC and various allied/coalition partners and friendly nations - Integrate the CONOPS information and BMS integration priorities for advanced and emerging BMDS capabilities (such as Early Intercept and Space Tracking and Surveillance System (STSS)) into battle management constructs - Refine C2BMC interfaces to BMDS Elements and Sensors <p>FY 2013 Plans: The C2BMC Experimentation Lab (X-Lab) will focus on prototyping, demonstrating, and analyzing new C2BMC capabilities that will enable (1) status reporting and tasking of BMDS elements, (2) integrated battle management with smart allocation of sensor, shooter and other critical resources, (3) robust communications between BMDS elements, and (4) a C2BMC architecture that meets near term needs while enabling future growth. While the focus of the X-Lab is on demonstrating the feasibility of new capabilities for insertion into future C2BMC cycles, Spirals 8.2 and 6.4; the X-Lab will also assess current Spiral 6.4 C2BMC capabilities to establish baselines for performance metrics and to assist in verifying requirements. The FY 2013 focus will be:</p> <ul style="list-style-type: none"> - Tasking of Aegis, THAAD, and infrared sensors through cues from space based assets and other BMDS assets: Spirals 6.4 and 8.2 - Demonstrating the communications, CONOPS and cueing logic required for ensuring a remote engagement authorized quality cue is generated and forwarded to Aegis: Spiral 8.2 - Evaluating C2BMC architectures to include evaluation of the BMDS Overhead Persistent Infrared (OPIR) Architecture (BOA) performance in the Space Based Infrared Systems (SBIRS) Operations Migration Capability (OMC) environment: Spiral 8.2 - Demonstrating communications and CONOPS to deliver a boost or ballistic cue to Space Tracking and Surveillance System (STSS) as a Precision Tracking Space System (PTSS) surrogate in flight tests - Prototyping battle management capabilities using associated-features track processing, system level discrimination, and pass BMDS sensor generated cues to external sensors for hit assessment 				
Title: C2BMC Communications		13.800	24.417	30.844
Articles:		0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012
<p>Description: See Description Below</p> <p>FY 2011 Accomplishments: Provided Regional Testbed (RTB) and Test Support for Ground Based Interceptor Flight Test (FTM-06a) at Wake Island - Fielded Spiral 6.2 Suite at Central Command - Fielded Spiral 6.4 Suite at Ramstein AFB - Provided sustainment of the BCN Teleport Gateway (BTG) at the DoD teleports: Lago Patria, IT; Ramstein, DE; Fort Buckner, JP; Camp Roberts, CA; Wahiawa, HI; Northwest, VA - Designed, procured and installed RTB equipment at Pacific Command (PACOM) DISA Defense Enterprise Computing Center (DECC) and Missile Defense Integration and Operations Center (MDIOC) - Completed threshold development of components of the Protected Anti-jam/Anti-scintillation Net-Centric System (PAAWNS) - Continued support for fielding of C2BMC Spiral 6.4 in EUCOM, STRATCOM, NORTHCOM, and PACOM - Participated in Ballistic Missile Defense System (BMDS) Distributed Ground Tests (GTD-04b, GTD-04d, and GTD-04d part1); Integrated HWIL Ground Tests (GTI-04d), and Focused Ground Tests (GTX-04e); and GM Intercept Flight Tests (FTG-06a), Aegis Intercept Flight Tests (FTM-15 and FTM-16), and THAAD Intercept Flight Tests (FTT-12) to verify Spiral 6.4C6.4 operational performance - Moved COCOM EWS from Missile Defense Agency Operations Center (MOC) to Fort Belvoir due to BRAC - Continued development and acquisition of C2BMC Deployable Interface Nodes (CDINs) (C2BMC Element funded software capability and project management; Sensors Element funded hardware, installation, and checkout) - Participated in and analyzed results of ground and flight tests, wargames, and exercises in accordance with the BMDS Integrated Master Test Plan (IMTP) - Supported integration and testing of U.S. BMDS interface with NATO Active Layered Theater Ballistic Missile Defense (ALTBMD) - Resolved real-time operational issues through the C2BMC Control Center and BMDS Network Operation and Security Center (BNOSC) - Operated BNOSC 24 hours a day, 7 days a week, 365 days a year - Provided global BMDS communications via leased DISA circuit lines - Provided and supported communications circuits for fielded C2BMC locations - Provided support of Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) radar communications nodes - Acquired and installed Enterprise Work Stations, Web Browsers, and Planners</p> <p>FY 2012 Plans: -Transport and install the second Modernization of Enterprise Terminal (MET) in EUCOM</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> -Perform First Article Testing (FAT) of the Protected Anti-jam/Antiscintillation Net-Centric System (PAAWNS) -Support exercises and tests of the AN/TPY-2 radar system with BMDS Communications Networks (BCN) support systems (HBCN and CDIN) -Continue BMDS communications systems integration and certifications <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Design and implement redundant fiber path in support of Clear Air Force Station (AFS) Upgraded Early Warning Radar (UEWR) integration into the Ballistic Missile Defense System (BMDS) - Upgrade SBX SATCOM capability and transition land-side terminal service to COMSAT terminals at FGA and VAFB - Provide Ground-Based Midcourse Defense (GMD) Communications Network (GCN) Long Haul Communications Transport (LHCT) Services - Install AN/GSC-52B SATCOM terminal at Ramstein AFB for connectivity via Indian Ocean Defense Satellite Communication System (DSCS) - Perform High Altitude Electromagnetic Pulse (HEMP) upgrade Building 543 at Ramstein AFB - Continue support for C2BMC 6.4 in EUCOM, STRATCOM, NORTHCOM, PACOM, and CENTCOM - Continue development and deployment of C2BMC Deployable Interface Nodes (CDINs) (C2BMC Element funded software capability and project management; Sensors Element funded hardware, installation, and checkout) - Participate in and analyze results of ground and flight tests, wargames, and exercises in accordance with the BMDS Integrated Master Test Plan (IMTP) - Resolve real-time operational issues through the C2BMC Control Center and BNOSC - Operate BNOSC 24 hours a day, 7 days a week, 365 days a year - Provide global BMDS communications via leased DISA circuit lines - Provide and support communications circuits for fielded C2BMC locations - Provide integrated logistics support planning and management and sustaining engineering support for fielded hardware and software - Provide support of AN/TPY-2 radar communications nodes - Acquire and install Enterprise Work Stations, Web Browsers, and Planners per warfighter requirements 				
<p>Title: Comms for European Phased Adaptive Approach</p> <p align="right">Articles:</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p>		34.850 0	- 0	- 0

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> - Procured and prepared Command and Control, Battle Management, and Communications (C2BMC) Deployable Interface Node (CDIN) #3 in support of a rapid deployment for European Phased Adaptive Approach (EPAA) Phase I TPY-2 Radar - Procured two Navy Multiband Terminal (NMT) Q/KA band satellite terminals and two Advance Digital Network Switches (ADNS) (Increment III) for AEGIS Ashore for EPAA Phase 2 use at Pacific Missile Range Facility (PMRF) and Romania sites <p>FY 2012 Plans: FY 2012 plans are captured in Spiral Development Plans \$5.208 Million</p> <p>FY 2013 Plans: FY 2013 plans are captured in Spiral Development Plans \$6.234 Million</p>				
<p>Title: Concurrent, Test, Training, and Operations (CTTO)</p> <p>Articles:</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> -Increased confidence in the Ballistic Missile Defense System (BMDS) through the use of CTTO capabilities in test and training events without degrading protection capability of Unified Combatant Commanders. -Operated and sustained Distributed Multi-Echelon System (DMETS) at 80 hours per week to support training and exercise events with Aegis, THAAD, GMD, Sensors, and C2BMC. -Began integration of element capabilities with Aegis and THAAD. -Coordinated with the execution of Agency Modeling and Simulation development to provide M&S tools capable of meeting CTTO requirements. -Completed technical refresh of DMETS by upgrading from Spiral 6.2 to Spiral 6.4 configuration. -Expanded training audience to theater/regional by deploying C2BMC Spiral 6.4 Distributed Training System (DTS) to EUCOM and began deployment of C2BMC Spiral 6.2 Distributed Training System to CENTCOM. -Coordinated and integrated BMDS CTTO Element-level activities and capabilities to update the Change Notice to implement CTTO content into the technical baseline. -Coordinated development and deployment of Regional Testbed (RTB) enabling PACOM to participate in flight tests while maintaining an operational capability. -Completed all CTTO prototyping efforts to include asset management and monitoring and virtualization that enable safe inject consistent high fidelity test and evaluation threat data on operational equipment to exercise all phases of the kill chain using all sensor/shooter combinations <p>FY 2012 Plans:</p>		73.723 0	- 0	- 0

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APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication				PROJECT MD01: Command & Control, Battle Management, Communications (C2BMC)			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2011	FY 2012	FY 2013
-FY 2012 plans are captured in MX04 - PE 0603888C - Ballistic Missile Defense Test and Targets \$32.389 Million											
FY 2013 Plans: -FY 2013 plans are captured in MX01 - PE 0603896C - Ballistic Missile Defense C2BMC \$29.585 Million											
Accomplishments/Planned Programs Subtotals									439.876	285.993	194.367
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0603175C: Ballistic Missile Defense Technology	92.617	74.920	79.975		79.975	81.388	115.427	133.742	136.654	Continuing	Continuing
• 0603881C: Ballistic Missile Defense Terminal Defense Segment	420.839	290.076	316.929		316.929	313.212	338.353	249.475	279.758	Continuing	Continuing
• 0603882C: Ballistic Missile Defense Midcourse Defense Segment	1,245.489	1,159.456	903.172		903.172	914.603	954.069	948.650	862.884	Continuing	Continuing
• 0603884C: Ballistic Missile Defense Sensors	389.259	222.075	347.012		347.012	327.342	362.520	341.780	326.095	Continuing	Continuing
• 0603888C: Ballistic Missile Defense Test & Targets	999.068	85.569	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,084.637
• 0603890C: BMD Enabling Programs	401.113	415.048	362.711		362.711	339.197	373.346	395.350	394.085	Continuing	Continuing
• 0603892C: AEGIS BMD	1,530.767	988.928	992.407		992.407	960.870	950.097	1,030.201	958.680	Continuing	Continuing
• 0603893C: Space Tracking & Surveillance System	105.580	96.232	51.313		51.313	45.355	32.423	34.195	35.087	Continuing	Continuing
• 0603904C: Missile Defense Integration & Operations Center (MDIOC)	83.112	69.249	63.043		63.043	54.299	55.409	54.693	55.844	Continuing	Continuing
• 0603907C: Sea Based X-Band Radar (SBX)	151.032	176.831	9.730		9.730	9.725	9.739	9.725	9.728	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0604884C: <i>Airborne Infrared (ABIR)</i>	71.550	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	71.550

D. Acquisition Strategy

The Command and Control, Battle Management, and Communications (C2BMC) acquisition strategy is consistent with the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, incremental development, evolutionary acquisition, and knowledge-based funding. Lockheed Martin Mission Systems is the C2BMC prime contractor via an Other Transaction Agreement contract vehicle, which ends 1Q FY 2012. A sole source C2BMC follow-on contract to Lockheed Martin for Spiral Development, Operation and Sustainment, and Testing was awarded 1Q FY2012. Major team members to Lockheed are Northrop-Grumman, Boeing, Raytheon, and General Dynamics. They are charged with the development, testing, fielding, training, and operations and sustainment support of the C2BMC system. They perform development and testing of C2BMC products in Arlington, VA; Huntsville, AL; and Colorado Springs, CO; and provide worldwide on-site operations and maintenance support. Additionally, the Defense Information Systems Agency (DISA) supports C2BMC worldwide long-haul communications. C2BMC Program Office government, Federally Funded Research and Development Center/University Affiliated Research Center (FFRDC/UARC), and Contract Support Services (CSS) personnel are also fully integrated as part of the Prime contractor's team to function in an Integrated Product Team environment. Competition will be conducted for CSS follow-on effort.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication				MD01: Command & Control, Battle Management, Communications (C2BMC)					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spiral Development C2BMC Hardware(HW)/Software(SW) Development, Integration & Test (I&T)	SS/CPAF	Lockheed Martin Team:Colorado Springs, CO	237.410	14.177	Oct 2011	-		-		-	0.000	251.587	251.587
Spiral Development C2BMC HW/SW Development, I&T	SS/CPAF	Lockheed Martin Team:Huntsville, AL	35.970	2.148	Oct 2011	-		-		-	0.000	38.118	38.118
Spiral Development C2BMC Product Engineering & Development	SS/CPAF	Lockheed Martin Team:Arlington, VA	445.434	26.636	Oct 2011	-		-		-	0.000	472.070	471.752
Spiral Development C2BMC Integration	Various	Services DISA Agency:-	110.956	14.091	Oct 2011	2.713	Oct 2012	-		2.713	Continuing	Continuing	Continuing
Spiral Development Contract Support Services	SS/FFP	Cobham Analytic Solutions, Paradigm, CACI, CSC:Arlington, VA/Huntsville, VA	112.496	20.193	Oct 2011	15.124	Oct 2012	-		15.124	Continuing	Continuing	Continuing
Spiral Development Federally Funded Research & Development Centers / University Affiliated Research Center	MIPR	MITRE, IDA, ORNL, Aerospace, JHU/APL, GTRI:Arlington, VA/ Huntsville, AL/Colorado Springs, CO	62.742	15.745	Oct 2011	12.065	Oct 2012	-		12.065	Continuing	Continuing	Continuing
Spiral Development MDA Civilian, Travel & PCS	Various	:-Arlington, VA/ Huntsville, AL/Colorado Springs, CO	33.683	11.095	Oct 2011	14.979	Oct 2012	-		14.979	Continuing	Continuing	Continuing
Spiral Development C2BMC Hardware(HW)/Software(SW) Development, Integration & Test (I&T)	SS/IDIQ	Lockheed Martin Team:Arlington, VA	-	118.096	Dec 2011	106.443	Nov 2012	-		106.443	Continuing	Continuing	Continuing
Spiral Development Common Threat Engineering	C/CR	Various:Various	1.684	-		-		-		-	0.000	1.684	1.684
Operations and Support (O&S) Unit Personnel, Control System Improvement, Sustaining Support	SS/CPAF	Lockheed Martin Team:Arlington, VA	183.285	-		-		-		-	0.000	183.285	83.285

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication				PROJECT MD01: Command & Control, Battle Management, Communications (C2BMC)					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Operations and Support (O&S) Indirect Support	MIPR	DISA DECC:-	19.065	-		-		-		-	0.000	19.065	9.065
Operations and Support (O&S) Communications Leases	IA	DISA:-	34.691	-		-		-		-	0.000	34.691	4.691
Operations and Support (O&S) DOTMLPF	IA	SETAC:-	2.000	-		-		-		-	0.000	2.000	2.000
Operations and Support (O&S) Warfighter Training	SS/CPAF	Lockheed Martin Team:Arlington, VA	2.665	-		-		-		-	0.000	2.665	2.665
Site Activation and Fielding Suites and Communications Gateways	SS/CPAF	Lockheed Martin Team:-	121.138	-		-		-		-	0.000	121.138	21.138
X-Lab X-Lab	SS/CPAF	Various / Northrop Grumman Mission Systems:Colorado Springs, CO	11.898	7.311	Oct 2011	12.199	Oct 2012	-		12.199	Continuing	Continuing	Continuing
C2BMC Communications Communication Leases	SS/CR	DISA:Arlington, VA	-	6.200	Oct 2011	6.143	Oct 2012	-		6.143	Continuing	Continuing	Continuing
C2BMC Communications Communication Equipment and Fielding	SS/CR	DISA:Various	34.994	4.986	Oct 2011	16.051	Oct 2012	-		16.051	Continuing	Continuing	Continuing
C2BMC Communications BNOSC	SS/CPAF	Lockheed Martin Team / JRDC:Colorado Springs, CO	-	6.761	Oct 2011	6.900	Oct 2012	-		6.900	Continuing	Continuing	Continuing
C2BMC Communications EUCOM Communications	MIPR	USAFE :Ramstein, DE	-	6.470	Oct 2011	1.750	Oct 2012	-		1.750	Continuing	Continuing	Continuing
C2BMC Communications EMR, EIS, ECI Communications	MIPR	Various:Various	63.904	-		-		-		-	0.000	63.904	63.904
C2BMC Communications GCN Transition	IA	DISA:Various	18.000	-		-		-		-	0.000	18.000	8.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	PROJECT MD01: Command & Control, Battle Management, Communications (C2BMC)
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Comms for European Phased Adaptive Approach Phased Adaptive Approach	SS/CPAF	Lockheed Martin Team:Arlington, VA/ Huntsville, AL/Colorado Springs, CO	34.850	-		-		-		-	0.000	34.850	4.850
Concurrent, Test, Training, and Operations (CTTO) Concurrent Test, Training and Operations	SS/CPAF	Northrop Grumman:Boeing	9.437	-		-		-		-	0.000	9.437	9.437
Concurrent, Test, Training, and Operations (CTTO) Concurrent Test, Training and Operations Test/Training Enhancements	SS/CPAF	Lockheed Martin Team Arlington:VA/ Huntsville,AL/Colorado Springs, CO	64.286	-		-		-		-	0.000	64.286	64.286
Subtotal			1,640.588	253.909		194.367		-		194.367			

Remarks

Funding for Operations and Sustainment is captured in Budget Project MX01 starting in FY 2012

In order to more accurately capture the aggregate program of work for C2BMC, starting in FY 2012 the PE is consolidating communications support and equipment funding that traditionally was aligned to other program elements planned activities (i.e., communications in support of Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) fielding).

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	PROJECT MD01: Command & Control, Battle Management, Communications (C2BMC)
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spiral Development BMDS Level Testing	SS/CPAF	Lockheed Martin Team:Arlington, VA/Huntsville, AL/Colorado Springs, CO	13.430	-		-		-		-	0.000	13.430	3.430
Integrated Master Test Plan BMDS Level Testing	SS/CPAF	Lockheed Martin Team:Arlington, VA/Huntsville, AL/Colorado Springs, CO	-	3.020	Oct 2011	-		-		-	0.000	3.020	0.000
Integrated Master Test Plan BMDS Level Testing (Element/System Test Lab Facilities)	SS/CPAF	JRDC:Colorado Springs, CO	20.226	17.367	Oct 2011	-		-		-	37.593	75.186	37.593
Integrated Master Test Plan BMDS Level Testing-	SS/IDIQ	Lockheed Martin Team:Arlington, VA/Huntsville, AL/Colorado Springs, CO	-	11.697	Jan 2012	-		-		-	9.064	20.761	9.064
Subtotal			33.656	32.084		-		-		-	46.657	112.397	50.087

Remarks
In order to more accurately capture the aggregate program of work for C2BMC, starting in FY 2012 the PE is consolidating communications support and equipment funding that traditionally was aligned to other program elements planned activities (i.e., communications in support of Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) fielding).

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency								DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense</i> <i>Command and Control, Battle Management & Communication</i>				PROJECT MD01: <i>Command & Control, Battle Management, Communications (C2BMC)</i>				
		Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		1,674.244	285.993		194.367		-		194.367			
Remarks NA												

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication				PROJECT MT01: C2BMC Test			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MT01: C2BMC Test	-	-	59.189	-	59.189	53.874	59.433	56.766	49.689	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		
Note N/A											
A. Mission Description and Budget Item Justification TESTING In order to ensure C2BMC capabilities delivered meet warfighter requirements and are interoperable with other BMDS components, C2BMC will support system flight and ground testing as detailed in the MDA Integrated Master Test Plan (IMTP).											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: Integrated Master Test Plan								-	-	59.189	
Articles:								0	0	0	
Description: See Description Below											
FY 2011 Accomplishments: FY 2011 accomplishments are in the Spiral Development Plans \$13.748 Million and in Program Element 0603904C, Budget Project MD22 \$23.803 Million											
FY 2012 Plans: FY 2012 Plans are reported in budget project MD01 \$32.084 Million											
FY 2013 Plans: - Participate in and analyze results of ground and flight tests, wargames, and exercises in accordance with the BMDS Integrated Master Test Plan (IMTP) - Plan, collect data, assess, examine, and report on C2BMC spiral integration testing - Support interoperability and integration of the BMDS program elements - Support the field testing of the European Deployment - Sustain the C2BMC Components of the Distributed Multi-Echelon Distributed Training system (DMETS) in the conduct of BMDS-level wargames, exercises, and training - Provide infrastructure, network, and troubleshooting support to: - C2BMC Control Center (CCC)											

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>		PROJECT MT01: <i>C2BMC Test</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> - System Test and Operations Center (STOC) - Ballistic Missile Defense System (BMDS) Communications Network (BCN) - Parallel Staging Network (PSN) - BMDS Network Operations and Security Center (BNOSC) - Continue BMD OPIR Architecture (BOA) performance assessments, integration, and testing - Conduct concept development test for virtualized C2BMC services, service oriented architectures - CTTO Network Architectures - Conduct initial prototypes and associated operations with CTTO interfaces and architectures - Conduct NATO Multi-National Ensemble Test #3 / Joint Project Optical Windmill (JPOW) 2013 - Conduct Exercise Rapid Arrow 2013 German/Dutch Live Fire Event 					
Accomplishments/Planned Programs Subtotals			-	-	59.189
C. Other Program Funding Summary (\$ in Millions) N/A					
D. Acquisition Strategy The Command and Control, Battle Management, and Communications (C2BMC) acquisition strategy is consistent with the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, incremental development, evolutionary acquisition, and knowledge-based funding. Lockheed Martin Mission Systems is the C2BMC prime contractor via an Other Transaction Agreement contract vehicle, which ends 1Q FY 2012. A sole source C2BMC follow-on contract to Lockheed Martin for Spiral Development, Operation and Sustainment, and Testing was awarded 1Q FY2012. Major team members to Lockheed are Northrop-Grumman, Boeing, Raytheon, and General Dynamics. They are charged with the development, testing, fielding, training, and operations and sustainment support of the C2BMC system. They perform development and testing of C2BMC products in Arlington, VA; Huntsville, AL; and Colorado Springs, CO; and provide worldwide on-site operations and maintenance support. Additionally, the Defense Information Systems Agency (DISA) supports C2BMC worldwide long-haul communications. C2BMC Program Office government, Federally Funded Research and Development Center/University Affiliated Research Center (FFRDC/UARC), and Contract Support Services (CSS) personnel are also fully integrated as part of the Prime contractor's team to function in an Integrated Product Team environment. Competition will be conducted for CSS follow-on effort.					
E. Performance Metrics N/A					

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication				PROJECT MT01: C2BMC Test					

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Remarks N/A													

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Remarks N/A													

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Master Test Plan Integrated Master Test Plan BMDS level Testing (Element/ System Test Lab Facilities)	SS/CPAF	JRDC :Colorado Springs, CO	-	-		37.336	Oct 2012	-		37.336	Continuing	Continuing	Continuing
Integrated Master Test Plan Integrated Master Test Plan BMDS Level Testing	SS/IDIQ	Lockheed Martin Team:Arlington, VA,Huntsville, AL,Colorado Springs, CO	-	-		21.853	Oct 2012	-		21.853	Continuing	Continuing	Continuing
Subtotal			-	-		59.189		-		59.189			
Remarks N/A													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MT01: <i>C2BMC Test</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost		Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		0.000	0.000	0.000

Remarks

N/A

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		59.189		-		59.189				

Remarks

NA

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense</i> <i>Command and Control, Battle Management & Communication</i>	PROJECT MT01: <i>C2BMC Test</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	PROJECT MT01: C2BMC Test

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	PROJECT MT01: C2BMC Test

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	PROJECT MT01: C2BMC Test

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MT01: <i>C2BMC Test</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Spiral 6.4 Cycle 5 Testing	1	2011	1	2011
GTD-04b (BMDS Distributed Ground Test)	2	2011	2	2011
FTG-06a (GM Intercept Flight Test)	1	2011	1	2011
Spiral 6.4 GEM HW Installation at EUCOM	2	2011	2	2011
GTD-04d Part 1 (BMDS Distributed Ground Test)	3	2011	4	2011
FTM-15 (Aegis Intercept Flight Test)	3	2011	3	2011
GTI-04 ISR-1 (BMDS Integrated HWIL Ground Test)	1	2011	4	2011
GTX-04e (BMDS Focused Ground Test) -1	2	2012	2	2012
European Phase Adaptive Approach (EPAA)-1 Capability Declaration	1	2012	1	2012
GTI-04e EUCOM/CENTCOM (OT) (BMDS Integrated HWIL Ground Test)	2	2012	4	2012
FTM-16 E2 (Aegis Intercept Flight Test)	3	2012	3	2012
FTM-18 (Aegis Intercept Flight Test)	3	2012	3	2012
FTG-06b (GM Intercept Flight Test)	4	2012	4	2012
GTI-04e EUCOM/CENTCOM (DT) (BMDS Integrated HWIL Ground Test)	3	2012	4	2012
FTM-19 (Aegis Intercept Flight Test)	4	2012	4	2012
FTI-01 (FTO-01 Risk Reduction Flight Test)	4	2012	4	2012
GTD-04e EUCOM (BMDS Distributed Ground Test)	4	2012	1	2013
GTD-04e CENTCOM (BMDS Distributed Ground Test)	1	2013	2	2013
GTI-04e NORTHCOM/PACOM (BMDS Integrated HWIL Ground Test) (DT)	2	2013	3	2013
FTO-01 (Operational Test)	2	2013	3	2013
FTM-21 E1/E2/E3 (Aegis Flight Test)	3	2013	3	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency			DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication		PROJECT MT01: C2BMC Test	
	Start		End	
Events	Quarter	Year	Quarter	Year
FTM-22 E2 (Aegis Intercept Flight Test)	3	2013	3	2013
GTD-04 NORTHCOM/PACOM (BMDS Distributed Ground Test) (OT)	3	2013	4	2013
GTI-04e NORTHCOM/PACOM (BMDS Integrated HWIL Ground Test) (OT)	3	2013	4	2013
AST-14 (Arrow WS Intercept Flight Test)	3	2013	3	2013
Install Spiral 8.2 Element and User Gateway Nodes (5) - C2BMC Testbed	4	2013	2	2014
Install Spiral 8.2 Management Node - C2BMC Testbed	4	2013	2	2014
Install Spiral 8.2 Mission Nodes (2) - C2BMC Testbed	4	2013	2	2014
Install Spiral 8.2 Mission Node - Ground Test	4	2013	1	2014
WFTP-04e (Ground Test) (Warfighter Trial Period)	1	2014	1	2014
AST-15 (Arrow WS Intercept Flight Test)	2	2014	2	2014
FTG-08 (GM Intercept Flight Test) (Two-Stage)	3	2014	3	2014
FTM-20 E1 (Aegis Intercept Flight Test)	3	2014	3	2014
GTX-06a (BMDS Focused Ground Test)	3	2014	3	2014
AA FTM-01/02 (Aegis Ashore Intercept Flight Test)	4	2014	4	2014
FTM-24 (Aegis Intercept Flight Test)	4	2014	4	2014
FTT-11a (THAAD Intercept Flight Test)	4	2014	4	2014
FTM-20 E2 (Aegis Intercept Flight Test)	1	2015	1	2015
FTM-25 E1 (Aegis Intercept Flight Test)	1	2015	1	2015
FTX-19 (Aegis SBT Simulated Intercept Flight Test)	1	2015	1	2015
GTI-06a (BMDS Integrated HWIL Ground Test)	1	2015	1	2015
AST-16 (Arrow WS Intercept Flight Test)	2	2015	2	2015
GTD-06a CENTCOM (BMDS Distributed Ground Test)	2	2015	2	2015
GTD-06a EUCOM (BMDS Distributed Ground Test) (OT)	2	2015	2	2015
GTD-06a EUCOM (BMDS Distributed Ground Test)	2	2015	2	2015
GDEx-06a (Ground Test) (Warfighter Exercise)	2	2015	2	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>		PROJECT MT01: <i>C2BMC Test</i>	
		Start		End	
Events	Quarter	Year	Quarter	Year	
WFTP-06a (Ground Test) (Warfighter Trial Period)	2	2015	2	2015	
FTM-30 (Aegis SBT Intercept Flight Test)	3	2015	3	2015	
FTX-10 (Cobra Dane Flight Test)	3	2015	3	2015	
GTD-06a CENTCOM (BMDS Distributed Ground Test) (OT)	3	2015	3	2015	
GTD-06a NORTHCOM/PACOM (BMDS Distributed Ground Test)	3	2015	3	2015	
GTD-06a NORTHCOM/PACOM (BMDS Distributed Ground Test) (OT)	3	2015	3	2015	
GTI-06 (BMDS Integrated HWIL Ground Test)	3	2015	3	2015	
FTG-11 (GM Intercept Flight Test)	4	2015	4	2015	
FTO-02 (GM/AA/Aegis/THAAD/Patriot Multiple Engagement Flight Test)	4	2015	4	2015	
WFTP-06 (Ground Test) (Warfighter Trial Period)	4	2015	4	2015	
GDEx-06 (Ground Test) (Warfighter Exercise)	4	2015	4	2015	
GTI-ISR-16 (BMDS Integrated HWIL Ground Test)	4	2015	4	2015	
AST-17 (Arrow WS Intercept Flight Test)	1	2016	1	2016	
GTX-06b (BMDS Ground Test)	1	2016	1	2016	
SFTM-1 E1/E2 (Aegis Simulated Intercept Flight Test)	3	2016	3	2016	
FTM-26 E1 (Aegis Flight Test)	3	2016	3	2016	
GTI-06b (BMDS Integrated HWIL Ground Test) (OT)	3	2016	3	2016	
GTI-06b (BMDS Integrated HWIL Ground Test)	3	2016	3	2016	
FTG-13 (GM Intercept Flight Test)	4	2016	4	2016	
GTD-06b CENTCOM (BMDS Distributed Ground Test) (OT)	4	2016	4	2016	
GTD-06b CENTCOM (BMDS Distributed Ground Test)	4	2016	4	2016	
GTD-06b EUCOM (BMDS Distributed Ground Test) (OT)	4	2016	4	2016	
GTD-06b EUCOM (BMDS Distributed Ground Test)	4	2016	4	2016	
WFTP-06b (Ground Test) (Warfighter Trial Period)	4	2016	4	2016	
GDEx-06b (Ground Test) (Warfighter Exercise)	4	2016	4	2016	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense</i> <i>Command and Control, Battle Management & Communication</i>	PROJECT MT01: <i>C2BMC Test</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
Spiral 8.2 Tri-Node IOC	1	2017	1	2017
SFTM-2 E2 (Aegis Intercept Flight Test)	1	2017	1	2017
FTX-20 (Aegis SBT Flight Test)	1	2017	1	2017
AST-18 (Arrow WS Intercept Flight Test)	1	2017	1	2017
GTD-06b NORTHCOM/PACOM (BMDS Distributed Ground Test)	1	2017	1	2017
GTD-06b NORTHCOM/PACOM (BMDS Distributed Ground Test) (OT)	1	2017	1	2017
FTT-15 (THAAD Intercept Flight Test)	2	2017	2	2017
GTX-07a (BMDS Focused Ground Test)	3	2017	3	2017
FTG-15 (GM Intercept Flight Test)	4	2017	4	2017
GTX-07b (BMDS Focused Ground Test)	4	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication				MX01: Command & Control, Battle Management, Communications (C2BMC) Development Support			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MX01: Command & Control, Battle Management, Communications (C2BMC) Development Support	-	62.725	94.394	-	94.394	88.115	105.185	98.861	100.788	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

N/A

A. Mission Description and Budget Item Justification

OPERATIONS AND SUSTAINMENT

C2BMC Program Operations and Sustainment (O&S) consists of 1) sustaining C2BMC operational capability worldwide; 2) on-site sub-systems maintenance for all C2BMC including COCOM suites, Global Engagement Manager (GEM) Suites planners, remote Enterprise Work Stations (EWS), and GEM Work Stations (GWS), web browsers, and communication site(s) associated with the Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) radar(s); 3) the C2BMC Control Center that provides real-time resolution of operational issues; 4) vendor support which includes coordination and resolution of problems that occur with Commercial-off-the-Shelf (COTS) equipment; 5) training of operator, maintenance personnel, and testers (approximately 700 per year); 6) hardware and software maintenance and upgrade installation to ensure continuity of C2BMC operations.

On-site support provides:

- Assistance to the System Administrator of each Combatant Command
- Prime contractor support to operational users
- On-site maintenance of hardware and software on a 8 hours a day 5 days a week basis
- Security support for the C2BMC equipment, hardware and software and auxiliary communication capabilities 24 hours a day, 7 days a week, 365 days a year network and equipment operations monitoring
- Support to operators and testers during test, exercises, and wargames

Off-site support provides:

- C2BMC Control Center (help desk) in Colorado Springs, CO provides
- Real-time resolution of operational issues

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	PROJECT MX01: Command & Control, Battle Management, Communications (C2BMC) Development Support		
<div>- The schedule for maintenance, systems upgrades, tests, exercises, and wargames, coordinated across all users</div> <div>- Collection of data regarding system/sub-system failures and prioritization of corrective actions</div> <div>- Review of hardware/software problems and coordination of Commercial-Off-the-Shelf (COTS) developer/vendor service calls</div> <div>- Integrated logistics support planning and management</div> <div>- Hardware and software maintenance and logistics functions that are beyond the capability of on-site support personnel</div> <div>- Inventory and spares management</div> <div>- Sustaining engineering support from the prime contractor and government activities</div> <div>- Maintenance of software licenses and vendor support agreements</div> <div>- Hardware and software maintenance agreements</div> <div>- Vendor depot support services</div>				
Training support includes:				
<div>- Developing and maintaining operator, maintenance personnel, and testers training material for C2BMC components/capabilities</div> <div>- Training tailored to each deployment and/or test</div> <div>- Training curriculum/courses provided for BMD Planner, Situational Awareness, Global Engagement Manager (GEM), and the C2BMC Executive Course</div> <div>- Warfighter sustainment training and skill proficiency</div> <div>- Assistance to warfighter in development and execution of the Radar Management Course</div> <div>- New equipment training to end-users and training organizations</div>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Title: Operations and Support		-	62.725	64.809
Articles:		0	0	0
Description: See Description Below				
FY 2011 Accomplishments: FY 2011 accomplishments are reported in budget project MD01, PE 0603896C - Ballistic Missile Defense C2BMC \$59.237 Million				
FY 2012 Plans: - Maintain C2BMC training suites - Sustain Global Engagement Manager (GEM) trainers - Develop curriculum for and train operators, maintenance personnel, and testers - Resolve real-time operational issues through the C2BMC Control Center and BMDS Network Operation and Security Center (BNOSC) at FY 2010 level				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MX01: <i>Command & Control, Battle Management, Communications (C2BMC) Development Support</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012
<ul style="list-style-type: none"> - Provide global BMDS communications via leased Defense Information Systems Agency (DISA) circuit lines - Provide and support communications circuits for fielded C2BMC locations - Provide integrated logistics support planning and management and sustaining engineering support for fielded hardware and software, including support to Navy Maritime Operations Centers where C2BMC equipment resides - Provide support of Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) radar communications nodes - Provide operations and sustainment personnel to support test and special operations for AN/TPY-2 at 5 deployed operational test sites - Support Host Nation operations, demonstrations, and tests - Provide sustainment training/skills proficiency to C2BMC operations - Upgrade and maintain computer network defense and network monitoring in the BNOSC - Operate the BNOSC 24 hours a day, 7 days a week, 365 days a year - Provide support/sustainment for C2BMC installations - Provide sustainment of the BCN Teleport Gateway (BTG) at the DoD teleports: Lago Patria, IT; Ramstein, DE; Fort Buckner, JP; Camp Roberts, CA; Wahiawa, HI; Northwest, VA - Support the installation and integration of the second Modernization of Enterprise Terminal (MET) in EUCOM - Continue round-the-clock sustainment for Communications capabilities with AN/TPY-2 (previously in Program Element 0603884C, Project MD11) - Continue on-site C2BMC support of fielded sites for hardware and software (previously in Program Element 0603884C, Project MD11) - Continue C2BMC operator training for fielded capabilities (previously in Program Element 0603884C, Project MD11) - Continue sustaining engineering support and integrated logistics support for fielded hardware and software (previously in Program Element 0603884C, Project MD11) <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Maintain C2BMC training suites - Sustain Global Engagement Manager (GEM) trainers - Develop curriculum for and train operators, maintenance personnel, and testers - Resolve real-time operational issues through the C2BMC Control Center and Ballistic Missile Defense System (BMDS) Network Operation and Security Center (BNOSC) at FY 2010 level - Provide global BMDS communications via leased Defense Information Systems Agency (DISA) circuit lines - Provide and support communications circuits for fielded C2BMC locations - Provide integrated logistics support planning and management and sustaining engineering support for fielded hardware and software, including support to Navy Maritime Operations Centers where C2BMC equipment resides 			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	PROJECT MX01: Command & Control, Battle Management, Communications (C2BMC) Development Support		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none">- Provide support of AN/TPY-2 radar communications nodes- Provide operations and sustainment personnel to support test and special operations for Army Navy/Ground Transportable Radar Surveillance model 2 (AN/TPY-2) at 5 deployed operational test sites- Support Host Nation operations, demonstrations, and tests- Provide sustainment training/skills proficiency to C2BMC operations- Upgrade and maintain computer network defense and network monitoring in the BNOSC- Operate the BNOSC 24 hours a day, 7 days a week, 365 days a year- Provide support/sustainment for C2BMC installations- Provide sustainment of the BCN Teleport Gateway (BTG) at the DoD teleports: Lago Patria, IT; Ramstein, DE; Fort Buckner, JP; Camp Roberts, CA; Wahiawa, HI; Northwest, VA- Support the installation and integration of the second Modernization of Enterprise Terminal (MET) in EUCOM- Continue round-the-clock sustainment for Communications capabilities with AN/TPY-2 (previously in Program Element 0603884C, Project MD11)- Continue on-site C2BMC support of fielded sites for hardware and software (previously in Program Element 0603884C, Project MD11)- Continue C2BMC operator training for fielded capabilities (previously in Program Element 0603884C, Project MD11)- Continue sustaining engineering support and integrated logistics support for fielded hardware and software (previously in Program Element 0603884C, Project MD11)				
Title: Concurrent, Test, Training, and Operations (CTTO)		-	-	29.585
Articles:		0	0	0
Description: See Description Below				
FY 2011 Accomplishments: - FY 2011 accomplishments are reported in budget project MD01- PE 0603896C - Ballistic Missile Defense C2BMC \$73.723 Million				
FY 2012 Plans: - FY 2012 plans are captured in MX04, PE 0603888C - Ballistic Missile Defense Test and Targets \$32.389 Million				
FY 2013 Plans: Operate and Sustain C2BMC Spiral 6.4 Tri-Node (Tri-Node includes PACOM, NORTHCOM, and STRATCOM) Distributed Training System (DTS) system. Distributed Training System Tri-Node was formerly known as the Distributed Multi-Echelon Training System (DMETS).				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication				PROJECT MX01: Command & Control, Battle Management, Communications (C2BMC) Development Support			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2011	FY 2012	FY 2013
- Operate and Sustain C2BMC Spiral 6.4 EUCOM and CENTCOM Distributed Training System (DTS). - Continue providing BMD training events across the Unified Combatant Commands while maintaining the existing architecture. - Monitor and coordinate the execution of Agency Modeling and Simulation development efforts; key dependencies for the successful execution of CTTO. - Development of C2BMC Spiral 8.2 Training Systems.											
Accomplishments/Planned Programs Subtotals									-	62.725	94.394
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0603175C: Ballistic Missile Defense Technology	92.617	74.920	79.975		79.975	81.388	115.427	133.742	136.654	Continuing	Continuing
• 0603881C: Ballistic Missile Defense Terminal Defense Segment	420.839	290.076	316.929		316.929	313.212	338.353	249.475	279.758	Continuing	Continuing
• 0603882C: Ballistic Missile Defense Midcourse Defense Segment	1,245.489	1,159.456	903.172		903.172	914.603	954.069	948.650	862.884	Continuing	Continuing
• 0603884C: Ballistic Missile Defense Sensors	389.259	222.075	347.012		347.012	327.342	362.520	341.780	326.095	Continuing	Continuing
• 0603888C: Ballistic Missile Defense Test & Targets	999.068	85.569	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,084.637
• 0603890C: BMD Enabling Programs	401.113	415.048	362.711		362.711	339.197	373.346	395.350	394.085	Continuing	Continuing
• 0603892C: AEGIS BMD	1,530.767	988.928	992.407		992.407	960.870	950.097	1,030.201	958.680	Continuing	Continuing
• 0603893C: Space Tracking & Surveillance System	105.580	96.232	51.313		51.313	45.355	32.423	34.195	35.087	Continuing	Continuing
• 0603904C: Missile Defense Integration & Operations Center (MDIOC)	83.112	69.249	63.043		63.043	54.299	55.409	54.693	55.844	Continuing	Continuing
• 0603907C: Sea Based X-Band Radar (SBX)	151.032	176.831	9.730		9.730	9.725	9.739	9.725	9.728	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	PE 0603896C: <i>Ballistic Missile Defense</i> <i>Command and Control, Battle Management & Communication</i>	MX01: <i>Command & Control, Battle Management, Communications (C2BMC)</i> <i>Development Support</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0604884C: <i>Airborne Infrared (ABIR)</i>	71.550	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	71.550

D. Acquisition Strategy

The Command and Control, Battle Management, and Communications (C2BMC) acquisition strategy is consistent with the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, incremental development, evolutionary acquisition, and knowledge-based funding. Lockheed Martin Mission Systems is the C2BMC prime contractor via an Other Transaction Agreement contract vehicle, which ends 1Q FY 2012. A sole source C2BMC follow-on contract to Lockheed Martin for Spiral Development, Operation and Sustainment, and Testing was awarded 1Q FY2012. Major team members to Lockheed are Northrop-Grumman, Boeing, Raytheon, and General Dynamics. They are charged with the development, testing, fielding, training, and operations and sustainment support of the C2BMC system. They perform development and testing of C2BMC products in Arlington, VA; Huntsville, AL; and Colorado Springs, CO; and provide worldwide on-site operations and maintenance support. Additionally, the Defense Information Systems Agency (DISA) supports C2BMC worldwide long-haul communications. C2BMC Program Office government, Federally Funded Research and Development Center/University Affiliated Research Center (FFRDC/UARC), and Contract Support Services (CSS) personnel are also fully integrated as part of the Prime contractor's team to function in an Integrated Product Team environment. Competition will be conducted for CSS follow-on effort.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication					PROJECT MX01: Command & Control, Battle Management, Communications (C2BMC) Development Support			
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Operations and Support Unit Personnel, Control System Improvement, Sustaining Support	SS/CPIF	Lockheed Martin Team:Arlington, VA	-	13.001	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Operations and Support Indirect Support	MIPR	DISA DECC:-	-	4.761	Oct 2011	9.000	Oct 2012	-		9.000	Continuing	Continuing	Continuing
Operations and Support DOTMLPF	IA	SETAC:-	-	0.500	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Operations and Support Warfighter Training	IA	Lockheed Martin Team:Arlington, VA	-	2.661	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Operations and Support Teleport Sustainment	MIPR	SPAWAR:San Diego, CA	-	2.799	Oct 2011	2.045	Oct 2012	-		2.045	Continuing	Continuing	Continuing
Operations and Support Unit Personnel, Control System Improvement, Sustaining Support	SS/IDIQ	Lockheed Martin Team:Arlington, VA	-	39.003	Jan 2012	53.764	Jan 2013	-		53.764	Continuing	Continuing	Continuing
Concurrent, Test, Training, and Operations (CTTO) Concurrent Test, Training And Operations	SS/CPAF	Northrop Grumman:Boeing	-	-		3.782	Nov 2012	-		3.782	Continuing	Continuing	Continuing
Concurrent, Test, Training, and Operations (CTTO) Concurrent Test, Training And Operations/Training Enhancements	SS/CPAF	Lockheed Martin Team Arlington,VA:Huntsville, AI, Colorado Springs, CO	-	-		25.803	Nov 2012	-		25.803	Continuing	Continuing	Continuing
Subtotal			-	62.725		94.394		-		94.394			
Remarks N/A													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication				PROJECT MX01: Command & Control, Battle Management, Communications (C2BMC) Development Support					

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	62.725		94.394		-		94.394			

Remarks
NA

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication				PROJECT MD40: Program-Wide Support			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MD40: Program-Wide Support	14.564	14.922	18.602	-	18.602	18.961	18.684	17.667	18.488	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		
Note In FY 2013, Program Wide Support reflects a proportional increase as a result of increases to BMD C2BMC..											
A. Mission Description and Budget Item Justification Program-Wide Support (PWS) contains non-headquarters management costs in support of MDA functions and activities across the entire Ballistic Missile Defense System (BMDS). Includes Government Civilians, Advisory and Assistance Services, and Federally Funded Research and Development contracts (FFRDC) providing integrity and oversight of the BMDS as well as, supporting MDA in enabling the development and evaluation of technologies that will respond to the changing threat. In addition, includes Global Deployment personnel and support performing deployment site preparation and activation. Other costs included provide facility capabilities for MDA Executing Agent locations (with the exception of Federal Office Building 2 after FY 2011), such as physical and technical security, legal services, travel and agency training, office and equipment leases, rents and utilities, data and unified communications support, supplies and maintenance, logistics and central property management of equipment, and similar operating expenses. Also includes legal settlements, and foreign currency fluctuations on a limited number of foreign contracts. In keeping with congressional intent, PWS is allocated on a pro-rata basis and therefore, fluctuates by year based on the total MDA budget.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: Civilian Salaries and Support Articles: Description: See Description Below FY 2011 Accomplishments: See paragraph A, Mission Description and Budget Item Justification FY 2012 Plans: See paragraph A, Mission Description and Budget Item Justification FY 2013 Plans: See paragraph A, Mission Description and budget item justification.								14.564	14.922	18.602	
								0	0	0	
Accomplishments/Planned Programs Subtotals								14.564	14.922	18.602	

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	PROJECT MD40: <i>Program-Wide Support</i>
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A		
<u>D. Acquisition Strategy</u> N/A		
<u>E. Performance Metrics</u> N/A		